Table of Contents

Part I. Title Page	1
Part II. Description of Program Activities	2
II.A. Scientific Subprojects	3
II.A.1. Collaborative Research and Service	3
II.A.2. Core Research and Development	5
II.A.3. Training	7
II.B. Books, Papers, Abstracts	9
II.C. Resource Summary Table	11
Part III. Narrative Description	13
III.A. Summary of Research Progress	13
III.A.1. Service	14
III.A.1.a. Scientific Consulting: Class I, III and IV Support	14
III.A.1.b. Service	15
III.A.1.c. Scientific Case Studies Using BIONET	17
III.A.1.d. Comments from the Community	19
III.A.1.e. PC/BIONET Communications - Distribution of the Resource	21
III.A.1.f. System Help Utilities	22
III.A.2. Collaborative Research	22
III.A.2.a. DEC-2060 Software Contributors	23
III.A.2.b. PC-Based Software	26
III.A.2.c. Liaison with Other Resources	28
III.A.2.d. Bulletin Boards	29
III.A.3. Core Research	30
III.A.3.a. Multiple Sequence Alignment	31
III.A.3.b. BIONET Satellite Program	32
III.A.3.c. Hardware Text Searching Machines	32
III.A.4. BIONET Training Program	33 34
III.A.5. Resource Facilities	34 34
III.A.5.a. Computer and Telecommunication Networks	37
III.A.5.b. Summary Statistics on Machine Use	41
III.A.5.c. Computer Software - Core Library	49
III.A.5.d. Computer Software - System Library III.A.5.e. Computer Software - Contributed Library	49
•	50
III.A.5.f. Database Library	55
III.B. Highlights III.C. Administrative Changes	56
III.D. Resource Advisory Committee and Allocation of Resources	57
III.E. Dissemination of Information of Resource's Capabilities	58
III.E.1. Community Interactions and Awareness	58
III.E.2. Electronic Communications	59
III.E.2.a. Bulletin Boards	59
III.F. Suggestions and Comments	59
I. BIONET RESOURCES REAPPLICATION	80
II. ON-LINE HELP MENUS	64
II. XMULTAN ALIGNMENT	85
	88
IV. PROGRAMS CONTAINED ON THE IBM AND MAC DIRECTORIES	71
V. DISPLAY BY THOMPSON'S MOLECULE PROGRAM	11

VI. MAILER FOR BIONET TRAINING SESSIONS	72
VII. TRAINING SCHEDULES	73
VIII. BIONET APPLICATION	82
IX. ADVERTISMENT FOR BIONET TRAINING SESSION	91
X. RENEWAL NEWSLETTER	92
XI. BULLETIN BOARD LEADER AD	100

List of Figures

Figure III-1:	Pieslice Allocations of the DEC-2060 Computer	38
Figure III-2:	Actual use of the DEC-2060 for the Month of October, 1986	39
Figure III-3:	BIONET's Percentage Use of the DEC-2060, 12/85 - 11/86	40
Figure III-4:	BIONET's Prime Time Use of the DEC-2060 12/85 - 11/86	43
Figure III-5:	BIONET's Non-Prime Time Use of the DEC-2060, 12/85 - 11/86	4
Figure III-6:	BIONET's Total Use of the DEC-2060, 12/85 - 11/86	4
Figure III-7:	Total Telenet and UNINET Network Use, 12/85-11/86	4
Figure III-8:	Size and Release Dates of the NIH GenBank Database	5:
Figure III-9:	Size and Release Dates of the EMBL DNA Sequence Database	5
Figure III-10:	Size and Release Dates of the PIR Protein Database	5.

List of Tables

Table II-1:	Summary of the BIONET User Community	3
Table III-1:	Summary of Monthly Rates of Inquiries	15
Table III-2:	Summary of Monthly Rates of Questions for Programs and Databases.	16
Table III-3:	BIONET Prime Time CPU Minutes	42
Table III-4:	BIONET Prime Time Connect Hours	42
Table III-5:	BIONET Non-Prime Time CPU Minutes	44
Table III-6:	BIONET Non-Prime Time Connect Hours	44
Table III-7:	BIONET Total CPU Minutes	46
Table III-8:	BIONET Total Connect Hours	46